

Substitute for form 1449A/PTO (modified)

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Page 1 of 8

Application Number

10/051530

Filing Date

January 22, 2002

First Named Inventor

Wortman, David L.

Art Unit

2875

Examiner Name

Unknown

Attorney Case Number

51806US008

U.S. Patent Documents

Exam. Init *	Cite No.	Document Number	Publication Date or Issue Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Doc. Number (Kind Code if Known)			
LG	A1	US- RE34,605	05/10/94	Schrenk et al.	1
↑	A2	US- 1610423	12/14/26	Cawley	111
	A3	US- 2492809	12/27/49	Marks	111
	A4	US- 3124639	03/10/64	Kahn	111
	A5	US- 3213753	10/26/65	Rogers	111
	A6	US- 3528723	09/15/70	Rogers	111
	A7	US- 3610729	10/05/71	Rogers	111
	A8	US- 3647612	03/07/72	Schrenk et al.	111
	A9	US- 3711176	01/16/73	Alfrey, Jr. et al.	111
	A10	US- 3759647	09/18/73	Schrenk et al.	111
	A11	US- 3773882	11/20/73	Schrenk	111
	A12	US- 3759647	09/18/73	Schrenk et al.	111
	A13	US- 3801429	04/02/74	Schrenk et al.	111
	A14	US- 3860036	01/14/75	Newman, Jr.	111
	A15	US- 4025688	05/24/77	Nagy et al.	111
	A16	US- 4094947	06/13/78	Alfrey, Jr. et al.	111
	A17	US- 4268127	05/19/81	Oshima et al.	111
	A18	US- 4310584	01/12/82	Cooper et al.	111
	A19	US- 4315258	02/09/82	McKnight et al.	111
	A20	US- 4427741	12/04/84	Aizawa et al.	111
	A21	US- 4446305	05/01/84	Rogers et al.	111
	A22	US- 4456336	06/26/84	Chung et al.	111
	A23	US- 4520189	05/28/85	Rogers et al.	111
	A24	US- 4520189	05/28/85	Rogers et al.	111
	A25	US- 4540623	09/10/85	Im et al.	111
	A26	US- 4540623	09/10/85	Im et al.	111
	A27	US- 4648690	03/1987	Ohe	111
LG	A28	US- 4678285	07/07/87	Ohta et al.	111

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✓	A29	US- 4714983	12/1987	Lang	1
✓	A30	US- 4720426	01/19/88	Englert et al.	11
	A31	US- 4729068	03/1988	Ohe	1111
	A32	US- 4798448	01/17/89	Van Raalte	1111
	A33	US- 4813765	03/21/89	Negishi	1111
	A34	US- 4917465	04/17/90	Conner et al.	1
	A35	US- 4937134	06/26/90	Schrenk et al.	1111
	A36	US- 4952023	08/28/90	Bradshaw et al.	1111
	A37	US- 5089318	02/18/92	Shetty et al.	1111
	A38	US- 5094788	03/10/92	Schrenk et al.	1111
	A39	US- 5094793	03/10/92	Schrenk et al.	1111
	A40	US- 5095210	03/10/92	Wheatley et al.	1111
	A41	US- 5103337	04/07/92	Schrenk et al.	1111
	A42	US- 5111335	05/1992	Horiuti et al.	1111
	A43	US- 5122905	06/16/92	Wheatley et al.	1111
	A44	US- 5122906	06/16/92	Wheatley	1111
	A45	US- 5126880	06/30/92	Wheatley et al.	1111
	A46	US- 5149578	09/22/92	Wheatley et al.	1111
	A47	US- 5157526	10/20/92	Kondo et al.	1111
	A48	US- 5159478	10/27/92	Akiyama et al.	1111
	A49	US- 5188760	02/23/93	Hikmet et al.	1111
	A50	US- 5202074	04/13/93	Schrenk et al.	1111
	A51	US- 5211878	05/18/93	Reiffenrath et al.	1111
	A52	US- 5234729	08/10/93	Wheatley et al.	1111
	A54	US- 5234729	08/10/93	Wheatley et al.	1111
	A55	US- 5235443	08/10/93	Barnik et al.	1111
✓	A56	US- 5255029	10/19/93	Vogele et al.	1111

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LG	A57	US- 5269995	12/14/93	Ramanathan et al.	11
A	A58	US- 5278694	01/11/94	Wheatley et al.	11
	A59	US- 5294657	03/15/94	Melendy et al.	11
	A60	US- 5303322	04/12/94	Winston et al.	11
	A61	US- 5316703	05/31/94	Schrenk	11
	A62	US- 5319478	06/07/94	Fijnfschilling et al.	11
	A63	US- 5325218	06/28/94	Willett et al.	11
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	A65	US- 5339198	08/16/94	Wheatley et al.	11
	A66	US- 5360659	11/01/94	Arends et al.	11
	A67	US- 5381309	01/1995	Borchardt	11
	A68	US- 5389324	02/14/95	Lewis et al.	11
	A69	US- 5408387	04/1995	Murase et al.	11
	A70	US- 5422756	06/1995	Weber	11
	A71	US- 5424119	06/13/95	Phillips et al.	11
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	A76	US- 5486935	01/23/96	Kalmanash	11
	A77	US- 5481445	01/02/96	Sitzema et al.	11
	A78	US- 5486949	12/3/96	Schrenk et al.	11
	A79	US- 5540978	06/30/96	Schrenk	11
	A82	US- 5594830	01/1997	Winston et al.	11
	A83	US- 5528720	06/1996	Winston et al.	11
LG	A84	US- 5612820	03 18 97	Schrenk et al	11

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✓	A85	US- 5629055	05/13/97	Revol et al.	1
✓	A86	US- 5686979	11/11/97	Weber et al.	1
✓	A87	US- 5699188	12/16/97	Gilbert et al.	1
✓	A88	US- 5721603	02/24/98	De Vaan et al.	1
✓	A89	US- 5744534	04/28/98	Ishiharada et al.	1
✓	A90	US- 5751388	05/12/98	Larson	1
✓	A91	US- 5767935	06/16/98	Ueda et al.	1
✓	A92	US- 5770306	06/23/98	Suzuki et al.	1
✓	A93	US- 5783120	07/21/98	Ouderkirk et al.	1
✓	A94	US- 5793456	08/11/98	Broer et al.	1
✓	A95	US- 5808794	09/15/98	Weber et al.	1
✓	A96	US- 5825542	10/20/98	Cobb, Jr. et al.	1
✓	A97	US- 5825543	10/20/98	Ouderkirk et al.	1
✓	A98	US- 5867316	2-2-99	Carlson et al	1
✓	A99	US- 5882774	3-16-99	Jonza et al	1
✓	A100	US- 5940149	8-17-99	Vanderwerf	1
✓	A101	US- 5962114	10-5-99	Jonza et al	1
✓	A102	US- 5965247	10-12-00	Jonza et al	1
✓	A103	US- 5976424	11-2-00	Weber et al	1
✓	A104	US- 5991077	11-23-99	Carlson et al	1
✓	A105	US- 5999316	12-7-99	Allen et al	1
✓	A106	US- 5999317	12-7-99	Whitney	1
✓	A107	US- 6012820	1-11-00	Weber et al	1
✓	A110	US- 6025897	2-15-00	Weber et al	1
✓	A111	US- 6031665	2-29-00	Carlson et al	1
✓	A112	US- 6045894	4-4-00	Jonza et al	1

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LG	A113	US- 6049419	4-11-00	Wheatley et al	11
X	A114	US- 6057961	5-2-00	Allen et al	11
	A115	US- 6053795	4-25-00	Whitney et al	11
	A116	US- 6080467	6-27-00	Weber et al	11
	A117	US- 6082876	7-4-00	Hanson et al	11
	A118	US- 6088067	7-11-00	Willetts et al	11
	A119	US- 6088159	7-11-00	Weber et al	11
	A120	US- 6088163	7-11-00	Gilbert et al	11
	A121	US- 6096247	8-1-00	Ulsh et al	11
	A122	US- 6101032	8-8-00	Wortman et al	11
	A123	US- 6111696	8-29-00	Allen et al	11
	A124	US- 6111697	8-29-00	Merrill et al	11
	A125	US- 6113811	9-5-00	Kausch et al	11
	A126	US- 6117530	9-12-00	Jonza et al	11
	A127	US- 6120026	9-19-00	Whitney et al	11
	A128	US- 6124971	9-26-00	Ouderkirk et al	11
	A129	US- 6157486	12-5-00	Benson, Jr. et al	11
	A130	US- 6157490	12-5-00	Wheatley et al	11
	A131	US- 6160663	12-12-00	Merrill et al	11
	A132	US- 6179948	1-30-01	Merrill et al	11
	A133	US- 6207260	3-27-01	Wheatley et al	11
	A134	US- 6208466	3-27-01	Liu et al	11
	A135	US- 6256146	7-3-01	Merrill et al	11
	A138	US- 6368699	4-9-02	Gilbert et al	11
	A139	US- 6531230	3-11-03	Weber et al	11
Day	A140	US- 6569515	5-27-03	Hebrink et al	11

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161	141	US- 02-0064671-A1			

Foreign Patent Documents

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		Ctry. Code	Number-KindCode (if known)				
161	B1	CA	1327286	03/01/94			X
	B2	CH	218041	12/21/93			X
	B3	GE	4121861	01/16/92			X
	B4	EPO	056843	08/04/82			X
	B5	EPO	062751	10/20/81			X
	B6	EPO	469732	02/05/92			X
	B7	EPO	514223	11/19/92			X
	B8	EPO	552725	07/28/93			X
	B9	EPO	573905	12/15/93			X
	B10	EPO	597261	05/18/94			X
	B11	EPO	606939	07/20/94			X
	B12	EPO	606940	07/20/94			X
	B13	UK	2052779	01/28/81			X
	B14	JAP	4-141603	05/15/92			X
	B15	JAP	63-168604	07/12/88			X
	B16	JAP	63-181201	07/26/88			X
	B17	JAP	4-184429	07/01/92			X
	B18	JAP	5-288910	11/05/93			X
	B19	JAP	6-11607	01/21/94			X
	B22	WO	94/29765	12/22/94	PCT		X
	B23	WO	95/17303	06/29/95	PCT		X
161	B24	WO	95-17691	06/29/95	PCT		X

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		City, Code	Number-KindCode (if known)				
LG	B25	WO	95/17692	06/29/95	PCT	11	X
	B26	WO	95/17699	06/29/95	PCT	11	X
	B27	WO	95/19347	12/19/95	PCT	11	X
	B28	WO	97/01440	01/16/97	PCT	11	X
	B29	WO	97/01774	01/16/97	PCT	11	X
	B30	WO	97/32226	09/04/97	PCT	11	X
	B31	WO	99/36477	07/22/99	PCT	11	
	B32	WO	99/36804	7/22/99	PCT	11	
LG	B33	WO	00/07044	02/10/00	PCT	11	

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Exam. Init.*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published
LG	C1	Schrenk et al., Nanolayer polymeric optical films, Tappi Journal, pp. 169-174, June 1992
	C2	Schrenk, W. et al., "Coextruded Elastomeric Optical Interference Film", SPE Annual Technical Conference, Atlanta, GA, pp. 1703-1707 (1988).
	C3	Schrenk et al., "Coextruded Infrared Reflecting Films", 7 th Annual Meeting Polymer Processing Society, Hamilton, Ontario, Canada, pp. 222-223 (April 1991).
	C4	Schrenk et al., "Coextruded Iridescent Film", TAPPI 1976 Paper Synthetics Conf., Atlanta, GA, pp. 141-145 (September 27-29, 1976).
	C5	Im, J. et al., "Coextruded Microlayer Film and Sheet", Journal of Plastic Film and Sheeting, Vol. 4, pp. 104-115 (April, 1988).
	C6	Schrenk et al., "Coextruded Multilayer Polymer Films and Sheet", Polymer Blends, Vol. 2, Ch. 15, pp. 129-165, Academic Press, Inc. (1978).
	C7	Hodgkinson, I. Et al., "Effective Principal Refractive Indices and Column Angles for Periodic Stacks of Thin Birefringence Films", J. Opt. Soc. Am. A, Vol. 10, No. 9, pp. 2065-2071 (1993).
		Schrenk et al., "Interfacial Flow Instability in Multilayer Coextrusion", Polymer Engineering and Science, Vol. 18-(8), pp. 620-623 (June-1978).
LG	C10	Schrenk, W., "New Developments in Coextrusion", International Conference on Advances In Polymer Processing, New Orleans, Louisiana, (April, 1991).

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GA	C11	Alfrey, Jr. et al., "Physical Optics of Iridescent Multilayered Plastic Films", Polymer Engineering and Science, Vol. 9, No. 6, pp. 400-404 (November 1969).
GA	C12	Radford et al., "Reflectivity of Iridescent Coextruded Multilayered Plastic Films", "Reflectivity of Iridescent Coextruded Multilayered Plastic Films", Polymer Engineering and Science, Vol. 13, No. 3, (May 1973); Dow Chemical Co., American Chemical Society Symposium on "Coextruded Plastic Films, Fibers, Composites", April 9-14, 1972.
	C13	Weber, M., "23:3: Retroreflecting Sheet Polarizer", SID 92 Digest, pp. 427-429 (1992)
	C14	Weber, M., "P-61: Retroreflecting Sheet Polarizer", SID 93 Digest, pp. 669-672 (1973).
	C15	Weber, M., "Giant Birefringement Optics in Multilayer Polymer Mirrors, SCIENCE, March 31, 2000, Vol. 287, No. 5462, pages 2451-2456
	C16	Zang, D. Y., "Giant anisotropies in the dielectric properties of quasi-epitaxial crystalline organic semiconductor thin films, 1991 American Institute of Physics, Appl. Physics, Lett. 59, August 12, 1991, Pages 823-825.
GA	C17	Boese, D., "Chain Orientation and Anisotropies in Optical and Dielectric Properties in Thin Films of Stiff Polyimides," Journal of Polymer Science, Part B, Polymer Physics, Vol. 30, 1321-1327

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